

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF NEW MEXICO**

FLORISTS' MUTUAL INSURANCE
COMPANY,

Plaintiff/Counterdefendant,

vs.

No. CV 03-1164 JB/LFG

AGSTAR OF NEW MEXICO, INC., and
FARM CREDIT SERVICES OF THE
MOUNTAIN PLAINS, PCA,

Defendants/Counterclaimants.

MEMORANDUM OPINION AND ORDER

THIS MATTER comes before the Court on Florists' Mutual Insurance Company's *Daubert* Motion *in Limine* to Exclude Expert Testimony by Kenneth Lujan, filed November 3, 2004 (Doc. 39). The primary issue is whether the Court should preclude Defendant, Agstar of New Mexico, Inc.'s ("Agstar") expert, Kenneth Lujan, from testifying whether *Pythium* infected the plants at issue. Because Agstar has not shown that Lujan is qualified to offer all the opinions that he proffers; that all his opinions are based on sufficient facts and data; that he has relied upon reliable scientific principles to reach his opinions; and based upon, and consistent with, the reasons the Court gave at the hearing, the Court will grant the motion to exclude Lujan's testimony that:

(i) The plants at issue in this lawsuit were not infected with *Pythium*; (ii) *Pythium* is a type of bacteria; (iii) *Pythium* can be detected by reviewing photographs of plants; (iv) *Pythium* can be detected by examining the roots of plants; (v) *Pythium* is present in all soils; and (vi) 98% of greenhouse tomato managers are able to detect *Pythium* simply by looking at photographs of tomato plants. The Court will deny the motion to exclude Lujan's testimony that:

(i) Pythium infected plants often wilt and have brown roots; (ii) he did not observe wilting or brown roots in the plants, either from actual observation or in photographs; and (iii) Pythium infected soil can be placed in a jar of water and, over time, show Pythium.

FACTUAL BACKGROUND

Florists' Mutual Insurance Company ("Florists' Mutual") issued Greenhouse Grower Business Package Policy No. BP-09757 (the "Policy") to Agstar. The policy named Farm Credit as a listed mortgagee subject to a New York Standard Mortgage Clause.

Agstar delegated inspection of its tomato crop to an outside contractor, Koppert Biological Systems. Koppert's employees would visit the greenhouse monthly to determine problems such as insects and disease in the greenhouse. See Deposition of John Stockwell at 129-130 (taken August 25, 2004). Florist contends that an employee mishandled Agstar's facilities' environmental control system -- such that interior temperatures rose to approximately 150 degrees Fahrenheit, destroying the growing plants and crop in question -- causing the claimed loss.

Lujan was Agstar's greenhouse manager at the time of the loss. Lujan does not hold degrees in plant pathology, botany, or zoology. He received a four-year degree in "Ag Education and Extension Office." Deposition of Ken Lujan at 7 (taken August 25, 2004) (hereinafter "Lujan Depo."). Lujan testified, when discussing his qualifications to opine about Pythium, that he learned about Pythium in a one-semester undergraduate botany course at New Mexico State University. See id. at 50. Lujan also stated that he studied Pythium for his Pesticides Certificate from the extension office. See id. Lujan did not know if questions regarding Pythium were on the test. See id. at 51.

David M. Ingram, Florists' Mutual's expert, states that a private pesticides applicator license requires a person to watch 59 minutes of video instruction, participate in a 30 minute discussion

session, and take a test with many common sense questions. See Affidavit of David M. Ingram ¶ 4, at 3-4 (executed November 2, 2004) (hereinafter “Ingram Aff.”). According to Ingram, the test is a simple examination which almost all pass. See id.

After receiving his degree from New Mexico State University in 1991, Lujan taught high school from 1992 to 1993. He worked construction in 1994, installing fire sprinklers. In 1995, he again taught high school, and after that he went to work for a Colorado greenhouse where he was a maintenance engineer. He was in charge of all the mechanical and electrical equipment. See Lujan Depo. at 5-6. When the manager of the greenhouse proved unreliable, as he was “staying out all night,” Lujan was given the job of greenhouse manager. Id. at 7.

Florists’ Mutual contends that there is no coverage under the Policy. Florists’ Mutual contends that Agstar did not give prompt notice of the loss and cut the destroyed plants tops from the roots and discarded them on a vacant adjacent land rather than protecting the property from further damage and preserving for examination; did not give complete inventory of the damaged and undamaged property; and did not reasonably permit Florists’ Mutual to inspect the property and records as the coverage under the Policy’s conditions require. Florists’ Mutual contends that Agstar’s actions prejudiced it.

Florists’ Mutual contends that what investigation was possible disclosed that disease infected the crop. Coverage excludes loss resulting from disease, whether direct or indirect, proximate or remote.

Ingram earned a Ph.D. in Plant Pathology. See Ingram Aff. ¶ 1, at 1. He studied *Pythium* as part of his Masters of Science degree, and he studied *Pythium* species affecting specific Northwest crops for his dissertation. See id. He still studies *Pythium* as a root pathogen of greenhouse tomatoes

and is actively involved in research on the subject. See id.

At his deposition, Lujan testified regarding Pythium infection of the crop at the time of the loss. Specifically, Lujan offered the following testimony: (i) Pythium did not infect the plants; (ii) Pythium can be detected by reviewing photographs of the plants in question; (iii) Pythium can be detected by examining the plants' roots; (iv) Pythium will be present in soil if the soil is placed in a jar; (v) Pythium is a type of bacteria; and (vi) 98% of greenhouse tomato managers are able to detect Pythium simply by looking at photographs of tomato plants.

When asked what organism Pythium was, Lujan stated "it's a bacteria - - well, I think it's bacterial, but I am not an expert in that" Lujan Depo. at 47. Nevertheless, Lujan concluded that Pythium did not infect the plants. He stated that he could determine that Pythium infected the plants by viewing photographs and by examining the plant's roots. Lujan also testified that if you "put a handful of dirt in that jar and let it sit there for three days, you are going to have Pythium in that water." Lujan Depo. at 47.

Florists' Mutual moves, *in limine* and pursuant to rule 702 of the Federal Rules of Evidence, to exclude certain of Lujan's opinion testimony at the trial. Agstar opposes this motion.

LEGAL STANDARD FOR ADMISSIBILITY OF EXPERT TESTIMONY

Following the Supreme Court's decisions in Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U.S. 579 (1993), Joiner v. General Electric Company, 522 U.S. 136 (1997), and Kumho Tire Co. v. Carmichael, 526 U.S. 137 (1999), rule 702 was amended. Rule 702, as revised, reflects the Court's instruction in Daubert that the trial court is to serve as a gatekeeper who thoroughly assesses the reliability of expert testimony before the court admits it. While the decision to admit or exclude testimony is within the trial court's discretion, the United States Court of Appeals for the Tenth

Circuit reviews de novo the question whether the district court performed its gatekeeper role and applied the proper legal standard in admitting an expert's testimony. The Tenth Circuit then reviews for abuse of discretion the trial court's actual application of the gatekeeper standard in deciding whether to admit or exclude an expert's testimony. See Miller v. Pfizer, 356 F.3d 1326, 1335 (10th Cir. 2004), cert. denied, 125 S.Ct. 40 (2004).

Rule 702's initial requirement is that the expert providing expert testimony has the requisite "knowledge, experience, training, or education." Fed. R. Evid. R. 702. Under the current rule 702, an expert may testify in the form of an opinion if: (i) "the testimony is based upon sufficient facts or data"; (ii) "the testimony is the product of reliable principles and methods;" and (iii) "the witness has applied the principles and methods reliably to the facts of the case." Id.

ANALYSIS

Some of Lujan's proposed opinions do not meet rule 702's standard for admissibility. While it is important that a court not use its gatekeeping function to choose between experts, a court must nonetheless make certain that an expert meets rule 702's standards. Agstar has not shown that Lujan's proposed testimony meets these standards.

I. LUJAN LACKS THE SCIENTIFIC, TECHNICAL OR OTHER SPECIALIZED KNOWLEDGE OF A QUALIFIED EXPERT REGARDING PYTHIUM.

The threshold determination in deciding whether scientific evidence is admissible is whether the individual offering the evidence is qualified as an expert in the field in which he is offering an opinion. Florists' Mutual contends that Lujan is not qualified to give expert opinions on the subject of crop disease or Pythium.

Passing a test for a private pesticides applicator license does not qualify one as an expert on

Pythium. On the other hand, a person does not necessarily need Ingram's academic credentials to testify about Pythium. What is troubling about Lujan is that he does not exhibit the level of specialized knowledge that gives the Court confidence that his testimony would assist the jury.

The Court is concerned that Lujan does not know whether Pythium is a bacteria or fungus. Lujan has not demonstrated that he understands the pathology of Pythium or any of its mechanisms. Knowing the group of microorganisms that a pathogen belongs to, e.g., fungi, bacteria, or viruses, is important in formulating plant disease management strategies. See Ingram Aff. ¶ 5, at 3. For example, there are no chemicals that control virus infection in plants. See id. Sometimes insects, such as aphides or whiteflies, serve as vectors (movers) of the virus and can transmit the virus from diseased to healthy plants. See id. Therefore, controlling the insect problem will reduce the spread of the virus disease in the greenhouse. See id. ¶ 6, at 4. Bacterial pathogens are also difficult to control and require knowledge of the specific bacterium causing the disease. See id. In some cases, a copper bactericide or an antibiotic such as streptomycin can be used to treat the disease. See id. In most cases, a fungicide has no effectiveness against bacterial disease.

It appears undisputed that Pythium is a fungus. As Ingram explains, Pythium is a lower fungus in the Kingdom Stramenipila, Phylum Oomycota, Class Oomycetes, Order Peronosporales, Family Peronosporaceae, and Genus Pythium. See id. Ingram states that Pythium is in a category of fungi called water molds. See id. ¶ 7, at 4. As Ingram testified, the literature reports that there are over 120 species of Pythium. See id. One must have knowledge of the species with which one is dealing to make correct control decisions. See id. There have been reports of fungicide resistance in this class of fungi. See id. Fungicides do not work on all isolates of Pythium in all situations. See id. ¶ 7, at 4.

The reason Pythium occurs at such a high incidence in greenhouse tomato operations such as Agstar's is because the fungus produces a spore that can swim in water. See id. These spores, called zoospores, are produced by the hundreds and swim along in the fertilizer solution until they come into contact with a tomato root, and then they attach and cause a new infection site. See id.

According to Ingram, an introductory botany textbook might contain the word Pythium and reference it to a root rot or a class of fungi, but it is doubtful that the life cycle and complete physiological plant pathology story is described therein. See id. ¶ 3, at 2. He also doubts that a botany instructor would have in-depth knowledge about Pythium. See id.

Florists' Mutual contends that Koppert Biological Systems' practice of having its employees visit the greenhouse monthly to determine problems such as insects and disease in the greenhouse is improper, as it could result in crop losses resulting from untimely scouting and treatment for these problems. Immediate treatment is usually required upon the discovery of an insect or disease problem. See id. ¶ 8, at 5. Accordingly, Florists' Mutual contends that it was not part of Lujan's duties to detect plant disease such as Pythium. In contrast Agstar contends that it was Lujan's job to check daily for disease. See Transcript of Hearing at 5 (November 5, 2004).¹

Florists' Mutual contends that, based on Lujan's resume, there is nothing in his education or training which would qualify him as an expert in Pythium. Based on his resume alone, the Court cannot say that Lujan qualifies as an expert with regard to matters concerning Pythium and other microorganisms which affect plants. While Lujan may – as someone who works in the industry – have some things he can say about the issues in the case, the Court is concerned about some of the

¹The Court's citations to the transcript of the hearing refer to the Court Reporter's original, unedited version. Any finalized transcript may contain slightly different page and/or line numbers.

opinions that Florists' Mutual challenges. Given that it is Agstar's burden to show that Lujan is qualified to give that proposed testimony, the Court is not convinced that he is qualified to testify as an expert in this case on certain issues.

II. LUJAN'S TESTIMONY REGARDING THE ABSENCE OF PYTHIUM IS BASED ON INSUFFICIENT FACTS OR DATA, AND IS NOT THE PRODUCT OF RELIABLE PRINCIPLES AND METHODS.

According to Ingram, Lujan's methods of determining whether Pythium infected the plants will not adequately detect Pythium. See Ingram Aff. ¶ 9, at 5. Ingram contends that for Lujan to suggest that he could use a picture to determine the presence of Pythium is without any basis. See id. Ingram states that a person might use a picture to show the symptom of the wilting that Pythium causes, but a person cannot use the picture as a definite indicator of the presence of the pathogen in tomato roots. See id.

Ingram contends that the proper means of detecting Pythium is a set of scientific steps, known as Koch's Postulates, that pathologists use to determine what microorganism is the cause of a specific plant disease. See id. ¶ 10, at 5-6. Koch's Postulates involve isolating the fungus from diseased plant tissue, inoculating a healthy plant, observing symptoms of the disease, and then re-isolating the same fungus. See id. ¶ 10, at 6. Furthermore, Ingram stated that he has isolated Pythium from plants that were asymptomatic. See id. ¶ 11, at 4.

The Court is not convinced that a greenhouse manager must use an academic or scientific test to determine common plant diseases. On the other hand, to rule out some diseases, more may be necessary. Even if Koch's Postulates are strictly academic, and not used commonly used by greenhouse managers, the question is whether Lujan's method is accurate in determining whether Pythium is present. While the test may not commonly be used in the industry and may not be the day

to day practice, he does not dispute that it is the common scientific method in the scientific community. Under Daubert, Agstar bears the burden of showing that solely looking at photographs is a reliable scientific method to determine if Pythium is present. Agstar has not presented any evidence that looking at a photograph is adequate.

Because Lujan's testimony that he can observe Pythium from photographs is without scientific basis, the Court will exclude that testimony. On the other hand, Lujan may testify that Pythium often involves brown roots and wilting. Lujan may testify that he saw neither when he looked at the plants and at the photographs.

Similarly, Lujan's testimony that a person can detect Pythium by looking at the roots is also without scientific basis. See id. ¶ 11, at 6. Brown roots are a symptom of Pythium, but several factors other than Pythium – such as fertilizer burn, other fungal pathogens, lack of water, and temperature – can cause this symptom. See id. Furthermore, asymptomatic plants, i.e., plants without brown spots on the roots, may yet be infected by Pythium. See id.

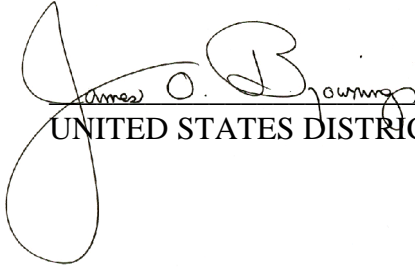
Agstar has not offered anything to substantiate Lujan's assertion that it is possible to tell if Pythium is present just by looking at whether a plant is wilting. Even if that may be the day-to-day practice in the industry, Agstar has not substantiated its assertion that, by looking at the roots and the presence of wilting, it's possible to conclude, to a scientific certainty, whether Pythium is present. Under Daubert, Agstar must demonstrate that this is a reliable scientific method and Lujan's opinion is based on sufficient facts or data. Agstar has not carried this burden. Accordingly, the Court will also exclude Lujan's testimony that he can detect Pythium by simply looking at roots. Again, he may testify that plants infected by Pythium often have brown roots and that he didn't see brown roots.

According to Ingram, Pythium is not omnipresent in all soils. See id. ¶ 12, at 6. Additionally,

Pythium can be detected within 24 hours in a water culture environment and does not require three days. See id. ¶ 12, at 6-7. Accordingly, the Court will exclude Lujan's testimony that a person will find Pythium in all soil as this testimony is not the product of reliable principles and methods. See id. On the other hand, he may testify that, if Pythium infected soil is placed in a jar of water Pythium will reveal itself.

In conclusion, some of Lujan's testimony regarding the detection of Pythium, the generation of Pythium in soil, and the zoological classification of Pythium is not the product of reliable principles and methods. Accordingly, the Court will prohibit Lujan from submitting certain testimony regarding Pythium at trial.

IT IS ORDERED that the Plaintiff's motion in limine is granted in part and denied in part. Lujan will be precluded from offering the following testimony: (i) The plants at issue in this lawsuit were not infected with Pythium; (ii) Pythium is a type of bacteria; (iii) Pythium can be detected solely by reviewing photographs of plants; (iv) Pythium can be detected solely by examining the plants' roots; (v) Pythium is present in all soils; and (vi) 98% of greenhouse tomato managers are able to detect Pythium simply by looking at photographs of tomato plants. The Court instructs the Plaintiff and his counsel not to mention, refer to, interrogate about, or attempt to convey to the jury in any manner, either directly or indirectly, any excluded evidence. To the extent that there is a dispute about the admissibility of specific testimony based on the Court's Order, the parties are instructed to approach the bench before eliciting or inferring such testimony in any way. Lujan may testify that Pythium infected plants often wilt and have brown roots; that he did not observe brown roots and wilting in the plants, either from actual observation or in photographs; and that Pythium infected soil can be placed in a jar of water and, over time, show Pythium.



UNITED STATES DISTRICT JUDGE

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